The Farm.

Sheep in England and America.

The main object in breeding sheep I suppose to be for the purpose of growing wool and mutton. As to the value of wool whether in this country or in England, the difference as I said in February number was not material, but there is a slight difference, and that is in favor of the combing wool. In the table of prices which you quote from the *Mark Lane Express*, the highest quotation is for combing wool.

As to the weight of fleece from Merino flocks, a day or two after my article was written, I met one of the leading wool merchants of Chicago, as well as one of the oldest, and asked what was the average weight of Merino fleeces in the country and he said 3½ pounds. And when I stated that of the Cotswold to be 10 pounds, I spoke from my own experience, and was under the mark.

I have been a breeder of sheep, to a greater of less extent, for 35 years, and during that time I have had experience with all the breeds in general use in this country. My first experience was with the American Merino—a large and roomy sheep. At that time my flock numbered about fifty head, and was kept primarily to supply me with mutton. I bought a very choice Leicester ram to cross on these ewes, and from the cross I obtained a very good mutton sheep, and the wool sold at top prices. This was in Ohio; and when I removed from Ohio, in 1856, I sold the flock for about $7 per head.

In Illinois I stocked with sheep; and having with me a Vermont man at the same time, whose experience had been with Merinoes, "the more wrinkles the better," under his influence I became a Merino breeder—it was not my choice—and in feeding out my older ewes and wethers, I could not get a better average than 90 pounds, nor a better average than four pounds of wool.

I made a cross with Southdowns, buying my rams of Hon. John Wentworth; and they were good ones. From this cross I lost in weight of fleece and somewhat in carcass. I then made a cross with Cotswolds, which gave me a larger carcass and a heavier fleece, giving me, on the whole, satisfaction. And this led me to adopt the Cotswolds.

I made several purchases of what were claimed to be thoroughbred Cotswold; but the produce did not show that uniformity which purity of breeding ought to give, so that in 1876 I cleared them out and started anew, with undoubted purity of blood and a high standard of excellence. I find the pure-bred Cotswold a hardy sheep, with large body and heavy fleece, and that they carry their wool to a greater age than some other broods. While obtaining this experience, I have endeavored to find what others have done, and from this standpoint I speak.

I believe that due care will secure good returns from with the Merino or Cotswold; the want of this will result in a loss from either breed. Through negligence, I think, it is, that three-fourths of all those who have engaged in sheep breeding have lost money. Sheep will not thrive with slipshod management, they are dependant on the shepherd more than any other stock on their keepers. These propositions are true of all breeds. The careful and experienced sheep breeder always makes money with sheep; and the care necessary is not burdensome. It is a care such as an invalid who is not able to attend to ordinary farm work may give, add find recreation and pleasure in giving.—*T. L. Miller, in National Live Stock Journal.*

POULTRY.—Attend to your chickens. Thoroughly clean out your chicken house. Examine the roost poles or perches, and saturate them with kerosene. It is a good plan to whitewash the chicken house. Into the whitewash pail, while the lime water is hot drop a teaspoonful of soit boiled rice and mix thoroughly. Then pour into a quart of cold water say ten or twelve drops of crude carbolic acid. Mix this into the rest and whitewash your hen house.

Get you a few ears of corn, put them into a fire until the grains are well charred and then shell off the corn and give it to your fowls. It will make your chickens healthy and increase the average yield of eggs.

Occasionally give your chickens meat. Cook it, chop it up and mix with scalded wheat or corn meal. A large share of the feed should be grains and cooked vegetables.

POPULARITY OF THE AYRSHIRES.—As a sign of the returning popularity of the valuable Ayrshire cattle might be cited the fact, that at the fair of the New York State Agricultural Society, the Ayrshires outnumbered the heretofore preponderating Jerseys. The Ayrshire, as a butter-making breed, is hardly a rival of the Jerseys; these two should be companions, and not rivals, for each one has invaluable points. A fact of curious significance also, at this fair was the absence of several of the old successful showherds, and the entrance of new exhibitors, who carried off her honors. It is further worthy of remark that, with all our success in breeding excellent animals, our prize-takers are too frequently imported. Would it not be well to keep prizes only for native bred animals?

How to Use Artificial Fertilizers

In using strong chemical fertilizers, it is necessary to remember that 100 pounds of such a mixed fertilizer as Ville's "Complete Manure," as compounded by the Mapes Formula Company, contain very nearly as much of the useful chemical elements are in a directly active and soluble state. If, in applying these fertilizers, we should place them in contact with the seed, the young germ would be fatally injured, and the plant destroyed before it could appear above ground. To prevent this danger, all these concentrated fertilizers should be thoroughly mixed with the soil before the seed is sown, or young plants are transplanted. Our own practice is as follows. For wheat, rye, or other similar crops, the fertilizers is spread in the fall, immediately before the seed is sown; the seed is then sown and both are harrowed in together. In spring we sow the fertilizer upon the surface, and either leave it to be carried in by the rains, or we harrow it in, when we harrow the wheat or rye, with a light, sloping-tooth harrow, such as the Bradley reversible or the Thomas harrow. For corn we scatter a portion of the fertilizer along the rows as soon as they are marked out; it is then well mixed with the soil in the process of planting and covering, and while it is near the seed, it is not in direct contact with it, except in very small quantities, which are thoroughly incorporated with the soil. Afterwards, when the corn is hoed, a second portion of the fertilizer, say 100 pounds per acre, is scattered along the drills or hills, on each side of the plant a foot or so distant, and then the crop is cultivated or hoed. For field crops of vegetables that are transplanted, such as cabbages or tomatoes, we apply the fertilizer on the harrowed ground as soon as it is marked out, and when sitting out the plant, the soil and a part of the fertilizer are mixed together. Afterwards the remainder is given at the first cultivating or hoeing, as for corn. By such methods as these, the young and tender roots are not brought into close contact with the concentrated chemicals of which the fertilizers consisist but they are fed gradually as they reach these in their growth, or as these dissolve and are carried down to the roots by the rains. Lastly, it is well to give the caution, not to leave the fertilizers about where poultry, sheep, or other animals can pick up fragments or lick the bags; nor to wash the bags in water-troughs, streams, or ponds, where animals drink, as some of the chemical are poisonous.

IS MACHINERY PROFITABLE?—The grand display of agricultural machinery at the New York State fair at Rochester, in September last, not only attracted much favorable notice from farmers, but also some adverse criticism from other persons with little experience in the use of machinery. The question often arises, "is it profitable to use machines in place of hand labor under all circumstances?" To this might be replied, very decidedly, that it is not. There are some cases where hand labor is more profitable: for instance, a farmer who has nothing to employ his time during the winter, may better use his flail to fresh his grain, than to hire or own a threshing machine to do the work. Although in this case the threshing might cost five times as much in labor and time, yet here time is not money, or at least it may appear that the old adage is at fault for once. But beneath this circumstance even, there lies a mistake. This is that no farmer should find his time so valuless, that he can afford to spend it in earning 50 cents or less in a day, (which is what it costs to thresh 10 bushels of grain with a machine,) and it is a mistake to manage his business so that he has nothing else to occupy his time. This is the principle that should lie at the bottom of this question of the value of machinery. Every man should so arrange his business that "time *is* money" to him, and if he can save time by using a machine of any kind, then he saves money, and its use is profitable.

Petroleum.

Among the many inquiries on this subject, a correspondent wishes to know if crude petroleum may be mixed with paint in the place of linseed oil? In answer, we repeat again, that petroleum is not adapted to mixing paint, but to be applied copiously with a white wash brush, alone and without any mixture. Paint remains at the surface, dries, and becomes a hard coat: petroleum penetrates the wood and never remains at the surface; it fills the pores, and converts soft and perishable wood into that which is durable like cedar. For barns, fences and outbuilding generally, it is enough to soak the wood well by two or three copious coats; but for dwellings, and all structures which are to be rendered ornamental, one or two coats of Averill paint outside, after the petroleum has been applied and dried a few weeks, will answer an excellent purpose, and render the building very durable. Averill is the only paint that will adhere well to the oil.

Another correspondent at Mt. Clement, Mich., writes to know where he can get the crude petroleum. It may be obtained at any kerosene manufactory, probably in any considerable city. Another inquirer asks if gas tar will answer as well as petroleum. The two are entirely unlike in their operation. Gas tar remains at the surface, and forms an impervious crust; petroleum goes into the pores of the woods, and never forms a coat at the surface. Gas tar is valuable when applied to wood kept under ground or in contact with water or in the shade. It does little or no good above ground exposed to sun and weather. Petroleum is not valuable under ground, the oil gradually soaking out but is excellent as a preservative of wood where exposed to the air.—*Country Gentleman.*

Setting Milk for Cream.

An exchange remarks: "It is not to be wondered at that the average dairyman is puzzled to know what to do for the best. Prof. Wilkinson tells him plainly that shallow pans and subearth ducts will do; while Prof. Harden is equally certain deep pans (twenty inches) sunk to the rim in water, at a temperature of 50 degrees, alone insure the largest yield of the best quality of butter; and now both these are overtopped by the Cooley system which proposes to inclose the milk in a deep, narrow can with a water-tight lid, and sink it under water, which is carefully kept at a low temperature by the use of ice. Our own experiments satisfy us that both extremes are right, provided certain rules are observed. At a temperature of above 60 degrees deep cans will not do; the milk will usually sour before the cream reaches the surface. When this temperature is unavoidable, shallow and broad pans will give the best results. When cold water is abundant and the means of keeping it at 50 degrees or lower are at hand, it will be found that cans twenty inches deep and eight or nine in diameter will save much labor, and at the same time make quite as much and better butter."—*Journal of Chemistry.*

The Tomato.

The tomato, or loveapple, was first known in South America. It has been for years common in Italian cookery. In 1803 it was grown in Detroit and Fort Wayne, by a man by the name of Col. Hamtramck, and in 1807 it was grown by Judge Thomas in Lawrenceburg, Indiana. The French stewed it at Kaskaskia, 1807, probably obtained from Thomas, and about that period it was brought into Ohio. In 1817 it was a salad or dressing for beef, or roast steak, in Wallingford, Connecticut. It was grown largely, as an ornamental plant, under the name of love apple. And even in Bristol, England, in 1835, it was grown as a flowering plant, its deep crimson-colored fruit being counted gems of great beauty.

FOR PIPS.—Wash the bird's head with warm water in which some sulphate of zinc has been dissolved: feed warm food with plenty of Cayenne pepper pepper mixed in it, and have a little sulphur of iron (coperas) dissolved in the water that the fowls drink. Keep all affected fowls away from the flock until well.

HOG CHOLERA.—Just as soon as the disease is discovered among your hogs separate the affected from the well ones, and keep them apart. Give them good wholesome vegetable food, (cooked is best) and in small quantities keeping the well ones on low diet. Give an emetic of white hellebore, and follow this up with a purgative of castor oil or raw linseed oil. Plenty of fresh air is desirable, and to slush the hog over with cold water occasionally is beneficial.

Improvement of Country Roads.

It is to be hoped the general determination to have as good country roads as the nature of the soil will admit will not be forgotten.

This feeling was brought about by the continued Autumn and Winter rains, converting cartways and and prairie tracks alike into sloughs of mire, and which the soft weather of the Spring so far, has kept in bad condition. It is to be hoped, we repeat, that the determination will not be allowed to die out.

We have heard it objected that this year all roads have been bad alike. Granted; although the proposition is not correct. It is true that earth roads have been bad under the continued rains; half-made metaled roads have been in a deplorable state; but it must be remembered that well graded roads, especially when provision has been made for easy and perfect drainage—and this is one of the important points in road-making—have dried quickly and have become passable, and sometimes dusty, while the ill-made roads, and the tracts between fences often called roads have remained for weeks and months nearly impassable.

The *Prairie Farmer* has steadfastly advocated earth roads, well graded and drained, as the only feasible plan of road making where gravel or other metaling was not to be had. It has advocated, for years, solid earth grades as the foundation for this metaling. But especially it has constantly and clearly kept before it readers the absolute necessity of the most thorough drainage for road-beds and the advantages accruing therefrom to the lands adjacent.

Among the cheap and feasible means to assist in the drainage of the road-bed itself, we have advocated placing a line of tile directly under the middle of the track, with outlines to the ditches and beyond, at the low places. These tile should be laid about a foot under the natural surface of the soil, and before the grading is done. Then, when from sixteen to twenty inches of earth is raised over them, the tile will be sufficiently below the surface to be out of the way of ordinary frosts. When these lines of tile, of a caliber of three to four inches, can be laid deeper it should be done; for it is a well-fixed rule, in cutting drains, that the deeper the tile, the more successful the drainage; so that now the tile drains are seldom laid less than three feet in depth, when possibl .

Having thus prepared the road-bed, it will be in the best possible condition to receive gravel or any other material available for metaling the whole, and even six inches of gravel over the earth will make a good and pleasant road to travel, except at such times as during the last Winter, when the best-constructed roads were comparatively bad.—*Prairie Farmer.*

Treatment of a Worn-Out Meadow.

Arba Cambell, Oswego, N. Y., in a letter to the Elmira Farmer's Club, writes:

As to the best plan of ploughing, fertilizing and re-seeding an old worn-out meadow.—Last fall I I ploughed a meadow of ten acres that had been mown and after-fed for many years, till it did not produce half a ton of hay to the acre. Early in the spring I sowed ten bushels of slacked lime to the acre and worked it in with a cultivator. I then sowed sowed 200 pounds of superphosphate to the acre, and 10 bushels of oats, sowing the oats thin to give the grass seed a better chance after harrowing. I sowed twelve quarts of timothy and four quarts of clover seed, and cross harrowed. The oats came up and produced a rapid growth, standing fully three feet high, and the one acre which we let get ripe, threshed forty-four bushels. The other nine acres we cut with a mower just a few of the heads began to turn yellow; when dry we raked them up and put them in as hay. As a fodder crop they are worth more than all the hay grown in the same meadow for the three previous years. And as I sell no grain but wheat, except in the form of butter, pork, and beef, we have found this the cheapest and most profitable way of using oat crop. For horses and sheep I know of no better fodder. Our grass seed took beautifully, and we have now a stand of timothy and clover thickly set and fully six inches high, with every prospect of a good crop of hay the coming year. I will recommend Mr. Johnson to try the same experiment on his soil and report the result. My soil is a gravelly loam inclining to clay, with little or no sand in it. I have found but little benefit in ploughing and re-seeding old exhausted meadows without using some fertilizers, not only to get the seed to catch, but to supply the wants of the grass in its future growths. And I wish here to say that in buying my timothy seed I always buy that which is not hulled in threshing; hulled seed will grow I doubt not under favorable circumstances, but that which is not hulled will will grow under less favorable circumstances, and I think it much cheaper to buy though costing a little more.

Hints to Potato Growers.

It is estimated that a crop of 300 bushels of potatoes per acre removes about 180 pounds of mineral matter from the soil, of which about one-half consists of potash and one-ninth of phosphoric acid. Wood ashes, lime and salt sown broadcast and well harrowed in before planting are excellent fertilizers for the potato. Muck spread broadcast and well worked in is also valuable manure. The lime will neutralize the acid in the muck and liberate the inert potash in the soil. Or superphosphate may be sprinkled in the hill at the rate of 200 pounds per acre, and mixed with the soil with a potato hook or garden rake just previous to planting the seed. This is a good method of using any fertilizer in order to receive the full benefit at the first season. A mixture of wood ashes and old vegetable manure can hardly be excelled in the form of manure for the potato crop.

It is generally agreed that single eyes planted twelve inches apart in rows three feet apart, produce the largest yield. The best method of cutting is as follows: Take a potato in the left hand, the butt towards you, and cut out the eye, with as much of the potato as you can, cutting towards you as if sharpening a pencil; dry the pieces in the sun one day, and if a valuable kind, place each in the ground eye up. It is agreed that after they are cut, if not convenient to plant at that time, that they can if placed on a floor under shelter, after being rolled in land plaster or air slacked lime, remain there from one to three weeks without injury. A correspondent of the *New England Farmer* says that he has missed but once in twenty years in having ripe pototoes on the fourth of July. His seed potatoes are brought from the cellar early in March, and kept in a warm room where they wither and dry up considerably, but when planted, in April, they will come up as soon as corn or peas, while potatoes which have remained in the cellar, are often several weeks in coming up, and look small and weak compared with those from his prepared seed.

As to the relative value of the eyes, of the seed end, middle, or butt end of the potato, it seems as yet not definitely determined. A French agricultural journal gives the result of experiments of scientific men in the cultivation of potatoes, the chief conclusions of which are, that the vigor of the potato plant is always in direct proportion to the weight of the tuber used for sets, and that the best results attained were from which all the lower eyes had been cut out. By the experiments mentioned it was demonstrated that the eyes at the top or seed end of the potatoe were productive of the most vigorous plants. On the other hand a Mr. J. Owen, of Missouri, has recently written to the Elmira Farmers' Club that he has practiced the planting of the butt end of the potato for nearly forty years and is fully satisfied with the result. Other members of the Club made the following statements of a similar character.

"The planting of butt ends of potatoes exclusively has been tried for two years by Joseph Hoffman with good results."

"I have tried it two years. I find it true that by this method better and smoother potatoes are produced than by planting all the potasoes or the seed end alone. The tubers are larger and fewer in number, but the crop will measure as much in bushels."

All are agreed as to the importance of cutting the potato into pieces. William H. Yeomans, of Columbia, Conn., says:

"As one eye produces a perfect plant of itself, and is therefore sufficient for a single hill, it is clear that it is much better to scatter the seed, making more hills, than to have these different germs come forth, and in a crowded state enter into a "struggle for existence."

Our practice is to cut the two eyes and put one piece in a hill, with these one foot apart, and we believe these might with safety even be placed even nearer. The rows are three feet apart. It is unreasonable to suppose that from planting two medium-sized potatoes in two hills, a bushel of large potatoes could by any possible means be produced, and yet, we have by a division to single eyes, with one eye in the hill, frequently done it."

W. P. Batchelor has sold his interest in the Roanoke *News* and retired from editorial life.—Durham *Plant.*